

**NEW SOURCE REVIEW  
and MINOR SOURCE OPERATING PERMIT  
OFFICE OF AIR QUALITY**

**Prince Manufacturing, Inc.  
205 Green Drive  
Avilla, Indiana 46710**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 113-15060-00032	
Issued by: Original signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: February 4, 2002

# Indiana Department of Environmental Management Office of Air Quality

## Addendum to the Technical Support Document for New Source Review and Minor Source Operating Permit

**Source Name:** Prince Manufacturing, Inc.  
**Source Location:** 205 Green Drive, Avilla, Indiana 46710  
**County:** Noble  
**Operating Permit No.:** NSR/MSOP 113-15060-00032  
**SIC Code:** 3479  
**Permit Reviewer:** Aida De Guzman

On December 27, 2001, the Office of Air Quality (OAQ) had a notice published in the News-Sun, Kendallville, Indiana, stating that Prince Manufacturing, Inc. had applied for a re-permitting of the source with the proposed increase in production of military vehicular components. The notice also stated that OAQ proposed to issue a permit for this source and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On December 19, 2001, Prince Manufacturing, Inc. submitted comments on the proposed re-permitting. The summary of the comments and corresponding responses is as follows (changes are bolded and deletions are struck-through for emphasis):

Comment 1: On page 4 - Section A.2 (f) and (g), Overhead Process Line No. 1 and Overhead Process Line No. 2 are listed. There is actually only one Overhead Line consisting of one primer booth and two top coat booths. Both "Process 1" and "Process 2" occur on the same line, although not at the same time. When "Process 1" is occurring, both the primer booth and the two top coat booths are used. When "Process 2" is occurring, only the two top coat booths are used (there is no primer step in "Process 2").

The current language in the permit seems to make it appear that there are four booths associated with the Overhead Line, when there are only three.

D.1.7 (a) and also Page 1 of the Technical Support Document also list the primerless topcoat booth separately.

Response 1: Section A.2(f) and (g) will be changed to clarify the permit language. This change will not affect the emission calculations, nor the applicable requirements determined in the draft permit:

(f) One (1) Overhead Process Line **consisting of** ~~no. 4:~~

- (1) One (1) Primer Booth, identified as PB-1, capable of painting a maximum of 417 square feet per hour (sq. ft./hour), equipped with High Volume Low Pressure (HVLP) spray system;
- (2) Two (2) Top Coat Booths 1 and 2, identified as PB-2 and PB-3, capable of painting a total maximum of 1760 sq. ft. per hour **of primer coated parts and 818 sq. ft. per hour of primerless parts**, equipped with High Volume Low Pressure spray system.

~~\_\_\_\_\_ (g) One (1) Overhead Process Line no. 2:~~

~~\_\_\_\_\_ (1) One (1) Primerless Top Coat Booth, capable of painting a maximum of  
818 sq. ft./hour), equipped with High Volume Low Pressure (HVLP) spray  
system;~~

Section D.1 will also be changed to clarify the number of overhead process line as follows:

## SECTION D.1

## EMISSIONS UNIT OPERATION CONDITIONS

- (a) One (1) natural gas-fired air make-up unit, identified as C.U.1 with a heat input capacity of 6.5 million British thermal units (mmBtu/hr);
  - (b) One (1) natural gas-fired Phosphate Line Cleaner Tank Heater, identified as C.U.2 with a heat input capacity of 2.5 mmBtu/hr;
  - (c) One (1) natural gas-fired Phosphate Line Phosphate Tank Heater, identified as C.U.3 with a heat input capacity of 2.5 mmBtu/hr;
  - (d) One (1) natural gas-fired Phosphate Line Dry/Bake Oven, identified as C.U.4 with a heat input capacity of 3.8 mmBtu/hr;
  - (e) One (1) natural gas-fired Heat Furnace, identified as C.U.5 with a heat input capacity of 0.08 mmBtu/hr;
  - (f) One (1) Overhead Process Line **consisting of no. 4:**
    - (1) One (1) Primer Booth, identified as PB-1, capable of painting a maximum of 417 square feet per hour (sq. ft./hour), equipped with High Volume Low Pressure (HVLP) spray system;
    - (2) Two (2) Top Coat Booths 1 and 2, identified as PB-2 and PB-3, capable of painting a total maximum of 1760 sq. ft. per hour **of primer coated parts and 818 sq. ft. per hour of primerless parts**, equipped with High Volume Low Pressure spray system.
  - ~~(g) One (1) Overhead Process Line no. 2:~~
    - ~~(1) One (1) Primerless Top Coat Booth, capable of painting a maximum of 818 sq. ft./hour, equipped with High Volume Low Pressure (HVLP) spray system;~~
  - ~~(h g)~~ One (1) Flat Line Booth, identified as PB-4:
    - (a) One (1) Primerless Top Coat Booth, capable of painting a maximum of 205 sq. ft./hour, equipped with High Volume Low Pressure (HVLP) spray system.
- The particulate matter (PM) overspray emission from all the spray booths is controlled by dry filters.
- ~~(i h)~~ One (1) Chromate Line, identified as CL-1, rated at a maximum of 87 sq.ft./hour of aluminum parts; and
  - ~~(j i)~~ One (1) Zinc Phosphate Line, identified as ZP-1, capable of cleaning a maximum of 2,783 sq. ft./hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

## Emission Limitations and Standards

### D.1.1 Volatile Organic Compound (VOC) [326 IAC 8-2-9]

- (a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicators at paint booths

Overhead **Process** Line 4: Primer Booth, identified as PB-1, Top Coat Booths identified PB-2, and PB-3; **and** Flat Line Booth identified as PB-4; ~~and the Overhead Primerless Top Coat Booth~~, when coating military vehicle metal parts shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm air dried coatings.

- (g) Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

**D.1.2 Particulate Matter (PM) [326 IAC 6-3-2(c)]**

The PM overspray emissions from the Overhead **Process** Line 4: Primer Booth, identified as PB-1, Top Coat Booths identified PB-2, and PB-3; **and** Flat Line Booth identified as PB-4; ~~and the Overhead Primerless Top Coat Booth~~, shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

**D.1.3. Preventive Maintenance Plan [326 IAC 1-6-3]**

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the Overhead **Process** Line 4: Primer Booth, identified as PB-1, Top Coat Booths identified PB-2, and PB-3; **and** Flat Line Booth identified as PB-4; ~~and the Overhead Primerless Top Coat Booth~~, and each control device.

**Compliance Determination Requirements**

D.1.4 No Changes

D.1.5 No Changes

**Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [ 326 IAC 2-6.1-5(a)(2)]**

**D.1.6 Particulate Matter (PM)**

The dry filters shall be in place at all times the Overhead **Process** Line 4: Primer Booth, identified as PB-1, Top Coat Booths identified PB-2, and PB-3; **and** Flat Line Booth identified as PB-4; ~~and the Overhead Primerless Top Coat Booth~~, are in operation.

**D.1.7 Monitoring**

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters for the Overhead **Process** Line 4: Primer Booth, identified as PB-1, Top Coat Booths identified PB-2, and PB-3; **and** Flat Line Booth identified as PB-4; ~~and the Overhead Primerless Top Coat Booth~~. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (E8, E9, E10 and E11) while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) Monthly inspections shall be performed of the coating emissions from the stack and the

presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

#### D.1.8 No Changes

Comment 2: The Stack Summary listed on page 2 of 7 of the Technical Support Document lists only 10 stacks. In the application, we listed 22 stacks. A number of these stacks were only for combustion units, and not for process exhaust.

Response 2: The original Technical Support Document (TSD) will stay unchanged for historical purposes. However, the changes to the Stack Summary Table will be documented in this TSD Addendum as follows:

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
E1	Heat Furnace	23	0.5	-	-
E2	Heat Furnace	23	0.5	-	-
E3	Tank Heater-Phosphate Line Cleaner	28	0.83	628	400
E4	Tank Heater-Phosphate Line Phosphate	28	0.83	628	400
E5	<b>Process Exhaust</b> Phosphate Line "in"	28	2.0	6,900	200
E6	<b>Process Exhaust</b> Phosphate Line "out"	28	2.0	6,900	200
E7	<b>Process Exhaust</b> Oven Heater	28	1.0	2,500	350
E8	<b>Process Exhaust</b> Primer Booth	28	2.83	14,900	ambient
E9	<b>Process Exhaust</b> Top Coat Booth 1	28	2.83	14,900	ambient
E10	<b>Process Exhaust</b> Top Coat Booth 2	28	2.83	14,900	ambient
<b>E11</b>	<b>Process Exhaust - Flat Line Booth</b>	<b>28</b>	<b>2.83</b>	<b>14,900</b>	<b>ambient</b>
<b>E12</b>	<b>Exhaust Vent - W. W. Trt System</b>	<b>15</b>	<b>2 x 2</b>	<b>6,900</b>	<b>ambient</b>
<b>E13</b>	<b>Exhaust Vent - Paint Mix Room</b>	<b>12</b>	<b>1</b>	<b>1,000</b>	<b>ambient</b>
<b>E14</b>	<b>Exhaust Vent - Compressor Rm.</b>	<b>15</b>	<b>1.3</b>	<b>1,000</b>	<b>ambient</b>

<b>E15</b>	<b>Process Exhaust - Chromate Line</b>	<b>25</b>	<b>2.5</b>	<b>-</b>	<b>ambient</b>
<b>E16</b>	<b>Exhaust Vent - Q.C. Lab Hood</b>	<b>24</b>	<b>0.6</b>	<b>100</b>	<b>ambient</b>
<b>E17</b>	<b>Plant Radiant Heater - North Unit</b>	<b>19</b>	<b>0.5</b>	<b>-</b>	<b>-</b>
<b>E18</b>	<b>Plant Radiant Heater - North Unit</b>	<b>19</b>	<b>0.5</b>	<b>-</b>	<b>-</b>
<b>E19</b>	<b>Plant Radiant Heater - North Unit</b>	<b>19</b>	<b>0.5</b>	<b>-</b>	<b>-</b>
<b>E20</b>	<b>Plant Radiant Heater -South Unit</b>	<b>19</b>	<b>0.5</b>	<b>-</b>	<b>-</b>

## TABLE OF CONTENTS

### A SOURCE SUMMARY

- A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]
- A.2 Emission Units and Pollution Control Equipment Summary
- A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

### B GENERAL CONSTRUCTION CONDITIONS

- B.1 Permit No Defense [IC 13]
- B.2 Definitions
- B.3 Effective Date of the Permit [IC 13-15-5-3]
- B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]
- B.5 Modification to Permit [326 IAC 2]
- B.6 Minor Source Operating Permit [326 IAC 2-6.1]

### C SOURCE OPERATION CONDITIONS

- C.1 PSD Minor Source Status [326 IAC 2-2]
- C.2 Preventive Maintenance Plan [326 IAC 1-6-3]
- C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]
- C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]
- C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]
- C.6 Permit Revocation [326 IAC 2-1-9]
- C.7 Opacity [326 IAC 5-1]
- C.8 Performance Testing [326 IAC 3-6]
- C.9 Compliance Monitoring [326 IAC 2-1.1-11]
- C.10 Monitoring Methods [326 IAC 3]
- C.11 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]

#### Record Keeping and Reporting Requirements

- C.12 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-3]
- C.13 General Record Keeping Requirements [326 IAC 2-6.1-2]
- C.14 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]
- C.15 Annual Notification [326 IAC 2-6.1-5(a)(5)]

### D.1 EMISSIONS UNIT OPERATION CONDITIONS - Paint Booths for painting Military Vehicle Components

#### Emission Limitations and Standards

- D.1.1 Volatile Organic Compound (VOC) [326 IAC 8-2-9]
- D.1.2 Particulate Matter (PM) [326 IAC 6-3-2(c)]
- D.1.3 Preventive Maintenance Plan [326 IAC 1-6-3]

#### Compliance Determination Requirements

- D.1.4 Testing Requirements
- D.1.5 Volatile Organic Compounds (VOC)

#### Compliance Monitoring Requirements

- D.1.6 Particulate Matter (PM)
- D.1.7 Monitoring

#### Record Keeping and Reporting Requirements

- D.1.8 Record Keeping Requirements

### Annual Notification



## SECTION A

## SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

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The Permittee owns and operates a stationary source for the manufacture of military vehicle components.

Authorized Individual: Robert Starkenburg  
Source Address: 205 Green Drive, Avilla, Indiana 46710  
Mailing Address: P.O. Box 696, Avilla, Indiana 46710  
Phone Number: (219) 837-8341  
SIC Code: 3479  
County Location: Noble  
County Status: Attainment for all criteria pollutants  
Source Status: Minor Source Operating Permit  
Major or Minor Source, under PSD or Emission Offset Rules;  
Major Source, Section 112 of the Clean Air Act

### A.2 Emissions units and Pollution Control Equipment Summary

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This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) One (1) natural gas-fired air make-up unit, identified as C.U.1 with a heat input capacity of 6.5 million British thermal units (mmBtu/hr);
- (b) One (1) natural gas-fired Phosphate Line Cleaner Tank Heater, identified as C.U.2 with a heat input capacity of 2.5 mmBtu/hr;
- (c) One (1) natural gas-fired Phosphate Line Phosphate Tank Heater, identified as C.U.3 with a heat input capacity of 2.5 mmBtu/hr;
- (d) One (1) natural gas-fired Phosphate Line Dry/Bake Oven, identified as C.U.4 with a heat input capacity of 3.8 mmBtu/hr;
- (e) One (1) natural gas-fired Heat Furnace, identified as C.U.5 with a heat input capacity of 0.08 mmBtu/hr;
- (f) One (1) Overhead Process Line consisting of:
  - (1) One (1) Primer Booth, identified as PB-1, capable of painting a maximum of 417 square feet per hour (sq. ft./hour), equipped with High Volume Low Pressure (HVLP) spray system;
  - (2) Two (2) Top Coat Booths 1 and 2, identified as PB-2 and PB-3, capable of painting a total maximum of 1760 sq. ft. per hour of primer coated parts and 818 sq. ft. per hour of primerless parts, equipped with High Volume Low Pressure

spray system.

- (g) One (1) Flat Line Booth, identified as PB-4:
  - (1) One (1) Primerless Top Coat Booth, capable of painting a maximum of 205 sq. ft./hour, equipped with High Volume Low Pressure (HVLP) spray system.

The particulate matter (PM) overspray emission from all the spray booths is controlled by dry filters.

- (h) One (1) Chromate Line, identified as CL-1, rated at a maximum of 87 sq.ft./hour of aluminum parts; and
- (i) One (1) Zinc Phosphate Line, identified as ZP-1, capable of cleaning a maximum of 2,783 sq. ft./hour.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is not required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is not a major source, as defined in 326 IAC 2-7-1(22);

**SECTION B GENERAL CONSTRUCTION CONDITIONS**

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

**B.1 Permit No Defense [IC 13]**

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

**B.2 Definitions**

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

**B.3 Effective Date of the Permit [IC13-15-5-3]**

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

**B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]**

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

**B.5 Modification to Permit [326 IAC 2]**

Notwithstanding the Section B condition entitled "Minor Source Operating Permit", all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

**B.6 Minor Source Operating Permit [326 IAC 2-6.1]**

- (a) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).
- (b) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. If IDEM, OAQ, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

**SECTION C**

**SOURCE OPERATION CONDITIONS**

Entire Source
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**C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]**

- (a) The total source potential to emit of volatile organic compounds (VOC) and PM/PM10 are each less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.
- (b) Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAQ prior to making the change.

**C.2 Preventive Maintenance Plan [326 IAC 1-6-3]**

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
  - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAQ, upon request and shall be subject to review and approval by IDEM, OAQ, IDEM, OAQ, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

**C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]**

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent

reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

#### C.7 Opacity [326 IAC 5-1]

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Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

### Testing Requirements

#### C.8 Performance Testing [326 IAC 3-6]

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- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAQ within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

## Compliance Monitoring Requirements

### C.9 Compliance Monitoring [326 IAC 2-1.1-11]

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Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

### C.10 Monitoring Methods [326 IAC 3]

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Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

### C.11 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]

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- (a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:
- (1) This condition;
  - (2) The Compliance Determination Requirements in Section D of this permit;
  - (3) The Compliance Monitoring Requirements in Section D of this permit;
  - (4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and
  - (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of :
    - (A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and
    - (B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.
- (c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

- (1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
  - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;
  - (3) An automatic measurement was taken when the process was not operating; or
  - (4) The process has already returned to operating within "normal" parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken.

### **Record Keeping and Reporting Requirements**

#### **C.12 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]**

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- (a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

#### **C.13 General Record Keeping Requirements [326 IAC 2-6.1-2]**

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- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAQ, representative. The



records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Records of required monitoring information shall include, where applicable:
  - (1) The date, place, and time of sampling or measurements;
  - (2) The dates analyses were performed;
  - (3) The company or entity performing the analyses;
  - (4) The analytic techniques or methods used;
  - (5) The results of such analyses; and
  - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
  - (1) Copies of all reports required by this permit;
  - (2) All original strip chart recordings for continuous monitoring instrumentation;
  - (3) All calibration and maintenance records;
  - (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.14 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
  - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
  - (2) A malfunction as described in 326 IAC 1-6-2; or
  - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.
  - (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.
- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

**C.15 Annual Notification [326 IAC 2-6.1-5(a)(5)]**

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- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.

- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Branch, Office of Air Quality  
Indiana Department of Environmental Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, IN 46206-6015

- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

## SECTION D.1

## EMISSIONS UNIT OPERATION CONDITIONS

- (a) One (1) natural gas-fired air make-up unit, identified as C.U.1 with a heat input capacity of 6.5 million British thermal units (mmBtu/hr);
  - (b) One (1) natural gas-fired Phosphate Line Cleaner Tank Heater, identified as C.U.2 with a heat input capacity of 2.5 mmBtu/hr;
  - (c) One (1) natural gas-fired Phosphate Line Phosphate Tank Heater, identified as C.U.3 with a heat input capacity of 2.5 mmBtu/hr;
  - (d) One (1) natural gas-fired Phosphate Line Dry/Bake Oven, identified as C.U.4 with a heat input capacity of 3.8 mmBtu/hr;
  - (e) One (1) natural gas-fired Heat Furnace, identified as C.U.5 with a heat input capacity of 0.08 mmBtu/hr;
  - (f) One (1) Overhead Process Line consisting of:
    - (1) One (1) Primer Booth, identified as PB-1, capable of painting a maximum of 417 square feet per hour (sq. ft./hour), equipped with High Volume Low Pressure (HVLP) spray system;
    - (2) Two (2) Top Coat Booths 1 and 2, identified as PB-2 and PB-3, capable of painting a total maximum of 1760 sq. ft. per hour of primer coated parts and 818 sq. ft. per hour of primerless parts, equipped with High Volume Low Pressure spray system.
  - (g) One (1) Flat Line Booth, identified as PB-4:
    - (a) One (1) Primerless Top Coat Booth, capable of painting a maximum of 205 sq. ft./hour, equipped with High Volume Low Pressure (HVLP) spray system.
- The particulate matter (PM) overspray emission from all the spray booths is controlled by dry filters.
- (h) One (1) Chromate Line, identified as CL-1, rated at a maximum of 87 sq.ft./hour of aluminum parts; and
  - (i) One (1) Zinc Phosphate Line, identified as ZP-1, capable of cleaning a maximum of 2,783 sq. ft./hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

## Emission Limitations and Standards

### D.1.1 Volatile Organic Compound (VOC) [326 IAC 8-2-9]

- (a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicators at paint booths Overhead Process Line: Primer Booth, identified as PB-1, Top Coat Booths identified PB-2, and PB-3; and Flat Line Booth identified as PB-4; when coating military vehicle metal parts shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm air dried coatings.
- (b) Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent

spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

**D.1.2 Particulate Matter (PM) [326 IAC 6-3-2(c)]**

The PM overspray emissions from the Overhead Process Line: Primer Booth, identified as PB-1, Top Coat Booths identified PB-2, and PB-3; and Flat Line Booth identified as PB-4; shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour

**D.1.3. Preventive Maintenance Plan [326 IAC 1-6-3]**

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the Overhead Process Line: Primer Booth, identified as PB-1, Top Coat Booths identified PB-2, and PB-3; and Flat Line Booth identified as PB-4; and each control device.

**Compliance Determination Requirements**

**D.1.4 Testing Requirements [326 IAC 2-1.1-11]**

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the VOC limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

**D.1.5 Volatile Organic Compounds (VOC)**

Compliance with the VOC content and usage limitations contained in Conditions D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

**Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [ 326 IAC 2-6.1-5(a)(2)]**

**D.1.6 Particulate Matter (PM)**

The dry filters shall be in place at all times the Overhead Process Line: Primer Booth, identified as PB-1, Top Coat Booths identified PB-2, and PB-3; and Flat Line Booth identified as PB-4, are in operation.

**D.1.7 Monitoring**

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters for the Overhead Process Line: Primer Booth, identified as PB-1, Top Coat Booths identified PB-2, and PB-3; and Flat Line Booth identified as PB-4. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (E8, E9, E10 and E11) while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

- (b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

**Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [ 326 IAC 2-6.1-5(a)(2)]**

**D.1.8 Record Keeping Requirements**

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- (a) To document compliance with Conditions D.1.1, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1.
  - (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
  - (2) A log of the dates of use;
  - (3) The cleanup solvent usage for each month;
  - (4) The total VOC usage for each month; and
  - (5) The weight of VOCs emitted for each compliance period.
- (b) To document compliance with Condition D.1.7, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH**

**MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

<b>Company Name:</b>	<b>Prince Manufacturing, Inc.</b>
<b>Address:</b>	<b>205 Green Drive</b>
<b>City:</b>	<b>Avilla</b>
<b>Phone #:</b>	<b>(219) 837-8341</b>
<b>MSOP #:</b>	<b>113-15060-00032</b>

I hereby certify that **Prince Manufacturing, Inc.** is **9** still in operation.  
**9** no longer in operation.

I hereby certify that **Prince Manufacturing, Inc.** is **9** in compliance with the requirements of **MSOP 113-15060-00032**.  
**9** not in compliance with the requirements of **MSOP 113-15060-00032**.

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

<b>Noncompliance:</b>

## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a New Source Review and Minor Source Operating Permit (MSOP)

#### Source Background and Description

Source Name: Prince Manufacturing, Inc.  
Source Location: 205 Green Drive, Avilla, Indiana 46710  
County: Noble  
SIC Code: 3479  
Operation Permit No.: 113-15060-00032  
Permit Reviewer: Aida De Guzman

The Office of Air Quality (OAQ) has reviewed an application from Prince Manufacturing, Inc. relating to the re-permitting of the source and the proposed increase in production. The source consists of the following emissions units used in the painting of military vehicular components:

- (a) One (1) natural gas-fired air make-up unit, identified as C.U.1 with a heat input capacity of 6.5 million British thermal units (mmBtu/hr);
- (b) One (1) natural gas-fired Phosphate Line Cleaner Tank Heater, identified as C.U.2 with a heat input capacity of 2.5 mmBtu/hr;
- (c) One (1) natural gas-fired Phosphate Line Phosphate Tank Heater, identified as C.U.3 with a heat input capacity of 2.5 mmBtu/hr;
- (d) One (1) natural gas-fired Phosphate Line Dry/Bake Oven, identified as C.U.4 with a heat input capacity of 3.8 mmBtu/hr;
- (e) One (1) natural gas-fired Heat Furnace, identified as C.U.5 with a heat input capacity of 0.08 mmBtu/hr;
- (f) One (1) Overhead Process Line no. 1:
  - (1) One (1) Primer Booth, identified as PB-1, capable of painting a maximum of 417 square feet per hour (sq. ft./hour), equipped with High Volume Low Pressure (HVLP) spray system;
  - (2) Two (2) Top Coat Booths 1 and 2, identified as PB-2 and PB-3, capable of painting a total maximum of 1760 sq. ft./hour, equipped with High Volume Low Pressure (HVLP) spray systems;



- (g) One (1) Overhead Process Line no. 2:
  - (a) One (1) Primerless Top Coat Booth, capable of painting a maximum of 818 sq. ft./hour), equipped with High Volume Low Pressure (HVLP) spray system;
- (h) One (1) Flat Line Booth, identified as PB-4:
  - (a) One (1) Primerless Top Coat Booth, capable of painting a maximum of 205 sq. ft./hour, equipped with High Volume Low Pressure (HVLP) spray system.

The particulate matter (PM) overspray emission from all the spray booths is controlled by dry filters.

- (i) One (1) Chromate Line, identified as CL-1, rated at a maximum of 87 sq.ft./hour of metal parts; and
- (j) One (1) Zinc Phosphate Line, identified as ZP-1, capable of cleaning a maximum of 2,783 sq. ft./hour of metal parts.

### Existing Approvals

American Finishing Corporation has been purchased by Prince Manufacturing, Inc.. American Finishing Corporation has been operating under previous approvals including, but not limited to the following:

- (a) Construction Permit CP 113-2349-00032, issued on May 13, 1992.

CP 113-2349-00032 issued to American Finishing Corporation has been expired prior to the renewal. Prince Manufacturing stated in the application that "during one of the subsequent renewal periods, American Finishing has opted to comply with the Permit By Rule Program, rather than continue operating under the Minor Source Operating Permit Program".

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
E1	Heat Furnace	23	0.5	-	-
E2	Heat Furnace	23	0.5	-	-
E3	Tank Heater-Phosphate Line Cleaner	28	0.83	628	400
E4	Tank Heater-Phosphate Line Phosphate	28	0.83	628	400
E5	Phosphate Line "in"	28	2.0	6,900	200
E6	Phosphate Line "out"	28	2.0	6,900	200
E7	Oven Heater	28	1.0	2,500	350
E8	Primer Booth	28	2.83	14,900	ambient

E9	Top Coat Booth 1	28	2.83	14,900	ambient
E10	Top Coat Booth 2	28	2.83	14,900	ambient

## Recommendation

The staff recommends to the Commissioner that the re-permitting of the existing source, including its production expansion be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on November 15, 2001 with additional information received via e-mail on November 29, 2001.

## Emission Calculations

- (a) Various Natural Gas Combustion Units: See Page 1 of 3 TSD Appendix A for detailed calculations.

- (b) Zinc Phosphating Line:

Zinc Phosphating is a process of chemically coating of parts as a surface preparation of the metal parts prior to painting. There are no volatile organic compounds (VOC) nor HAPs emitted from the chemicals being used except for the Oakite Cryscoat, which is insignificant.

HAP Emissions:

- (1) Oakite Cryscoat MP:  
 Hydrofluoric acid Emissions =  $0.1375 \text{ gal/hr} * 0.9\% * 11.5 \text{ lb/gal} * 8760 \text{ hrs/yr} * \text{ton}/2000 \text{ lb}$   
 = 0.069 ton/yr

- (c) Chromate Line:

This process is similar to Zinc Phosphating, where chromating is done for surface preparation of the metal parts prior to painting. There are no volatile organic compounds (VOC) nor HAPs emitted from the chemicals being used except for the following:

HAP Emissions:

- (1) Oakite Chromicoat T3;  
 Chromium Emissions =  $0.027 \text{ gallon/hr} * 9.9\% * 9.5 \text{ lb/gal} * 8760 \text{ hrs/yr} * \text{ton}/2000 \text{ lb}$   
 = 0.11 ton/yr  
 Hydrofluoric Acid Emissions =  $0.027 \text{ gallon/hr} * 9.9\% * 9.5 \text{ lb/gal} * 8760 \text{ hrs/yr} * \text{ton}/2000 \text{ lb}$   
 = 0.11 ton/yr

- (d) Surface Coating:
- (1) VOC and PM Emissions, See Page 2 of 3 TSD Appendix A for detailed calculations.
- (2) HAP Emissions: See Page 3 of 3 TSD Appendix A for detailed calculations. The main HAPs emissions (chromium compound and cobalt) come from the Overhead Line 1 TopCoat which are non-volatile and emitted in the form of PM overspray, and are calculated as follows:  
 PM overspray is controlled by dry filters.

Top Coat

Weight % Chromium Cmp = 17%  
 Weight % Cobalt = 7%

As Applied Wt. % VOC = 29.14%  
 As Applied Weight % Solids = 70.9%  
 PM Emissions from the TopCoat = 24.6 tons/yr

Uncontrolled Chromium Emissions =  $\frac{17\%}{70.9\%} * 24.6 \text{ tons PM/yr}$   
 = 5.9 tons/yr

Controlled Chromium Emissions = 5.9 tons/yr \* (1-.90)  
 = 0.59 tons/yr

Uncontrolled Cobalt Emissions =  $\frac{7\%}{70.9\%} * 24.6 \text{ tons PM/yr}$   
 = 2.4 tons/year

Controlled Cobalt Emissions = 2.4 tons/yr \* (1-.90)  
 = 0.24 ton/yr

SUMMARY OF EMISSIONS (TONS/YEAR)							
Pollutant	Surface Coating		Zinc Phosphating Line	Chromate Line	Natural Gas Combustion	Uncontrolled PTE	Controlled PTE
PM	45.33	4.53	0.069	0.22	0.1	45.6	4.9
PM10	45.33	4.53	0.069	0.22	0.5	46.0	5.3
VOC	60.22	60.22	0.0	0.0	0.4	60.62	60.62
NOx	0.0	0.0	0.0	0.0	6.8	6.8	6.8
SO2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CO	0.0	0.0	0.0	0.0	5.7	5.7	5.7
Worst Single HAP	5.9 Chromium	0.59 Chromium	0.069 Hydrofluoric acid	0.11 Chromium	0.0	6.01	0.77
Combined HAPs	12.9	5.41	0.0069	0.22	0.0	13.17	5.7

### Source Potential To Emit Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	45.6
PM-10	46.0
SO <sub>2</sub>	0.0
VOC	60.62
CO	5.7
NO <sub>x</sub>	6.8

HAP's	Potential To Emit (tons/year)
Ethylbenzene	0.19
Hexamethylene-1,6-diisocyanate	0.16
Methyl ethyl ketone (2-Butanone)	0.33
Methyl isobutyl ketone	0.03
Toluene	2.93
Hydrofluoric Acid	0.179
Xylenes	0.94
Chromium Compounds	6.01
Cobalt Compounds	2.4
TOTAL	13.17

### Justification for Approval Level

- (a) Pursuant to 326 IAC 2-6.1, the source, which also includes a production expansion is being re-permitted under a Minor Source Operating Permit (MSOP), since the volatile organic compounds (VOC), PM and PM10 are each emitted at greater than 25 tons per year but less than 100 tons per year.

### County Attainment Status

The source is located in Noble County.

Pollutant	Status
PM-10	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	not determined

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone

standards. Noble County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

- (b) Noble County has been classified as attainment or unclassifiable for all the other pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

### Potential to Emit After Issuance

PTE from the existing source, including the production increase (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable): .

Process/emission unit	Potential to Emit After Issuance (tons/year)							
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	Single HAP	Combined HAPs
Natural Gas Combustion	0.1	0.5	0.0	0.4	5.7	6.8	0.0	0.0
Zinc Phosphating Line	0.069	0.069	0.0	0.0	0.0	0.0	0.069	0.069
Chromate Line	0.22	0.22	0.0	0.0	0.0	0.0	0.11 chromium	0.22 chromium & Hydrofluoric Acid
Surface Coating	4.53	4.53	0.0	60.22	0.0	0.0	0.59	5.41
Total PTE After Issuance	4.9	5.3	0.0	60.62	5.7	6.8	0.77	5.7
PSD Threshold Levels	250	250	250	250	250	250	-	-

Dry Filters are installed to control the PM overspray.

- (a) This existing re-permitted source is not a major stationary source for the Prevention of Significant Deterioration (PSD) because no attainment regulated pollutant is emitted at a rate of 250 tons per year, and it is not one of the 28 listed source categories.

### Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,  
 (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and  
 (c) any combination of HAPs is less than 25 tons/year.

### Federal Rule Applicability

- (a) New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60):  
 There are no NSPS applicable to this source.
- (b) National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63).

- (1) 40 CFR Part 63, Subpart T - National Emission Standards for Halogenated Solvent Cleaning. This NSPS applies to each individual batch vapor, in-line vapor, in-line cold and batch cold solvent cleaning machine that uses any solvent containing methylene chloride, prechloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride or chloroform, or any combination of these halogenated HAP solvent in a total concentration greater than 5 percent by weight as a cleaning and drying agent.

The Chromate Line, CL-1; and Zinc Phosphating Line, ZP-1 are not subject to this NSPS because they do not involve cleaning of the vehicular components but rather, they are used in chemically coating of the military vehicular components as a surface preparation prior to coating, and the chemicals used do not contain halogenated solvents.

- (2) There are no other NESHAPs applicable to this source.

#### **State Rule Applicability - Entire Source**

- (a) 326 IAC 2-6 (Emission Reporting)  
This source is not subject to 326 IAC 2-6 (Emission Reporting), because the VOC potential to emit are well below one hundred (100) tons per year.
- (b) 326 IAC 5-1 (Visible Emissions Limitations)  
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:
  - (1) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

#### **State Rule Applicability - Individual Facilities**

- (a) 326 IAC 8-2-9 (Miscellaneous Metal Coating)  
This rule applies to facilities of which construction commences after July 1, 1990, of the types described in section 9 of this rule located in any county and have an actual emissions of greater than 15 pounds per day before add-on control.
  - (1) Overhead Line 1: Primer Booth, identified as PB-1, Top Coat Booths identified PB-2, and PB-3; Flat Line Booth identified as PB-4; and the Overhead Primerless Top Coat Booth, which paint chromated aluminum military vehicular components are subject to 326 IAC 8-2-9, because each booth has the actual emissions of greater than 15 pounds per day.  
  
Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at paint booths Overhead Line 1: Primer Booth, identified as PB-1, Top Coat

Booths identified PB-2, and PB-3; Flat Line Booth identified as PB-4; and the Overhead Primerless Top Coat Booth, shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm air dried coatings.

- (2) The Chromate Line, CL-1; and Zinc Phosphating Line - Although, they are used to coat chemicals to the metal vehicular components, they are not subject to 326 IAC 8-2-9, because the chemicals coated do not leave any film on the substrate like paint does.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

All paint booths Overhead Line 1: Primer Booth, identified as PB-1, Top Coat Booths identified PB-2, and PB-3; Flat Line Booth identified as PB-4; and the Overhead Primerless Top Coat Booth, are in compliance with this rule, because each booth doesn't emit greater than 3.5 pounds of VOCs per gallon of coating less water (see Page 2 of 3 TSD Appendix A for emission calculation).

- (b) 326 IAC 6-3-2 (Process Operations)  
The PM overspray emissions from paint booths Overhead Line 1: Primer Booth, identified as PB-1, Top Coat Booths identified PB-2, and PB-3; Flat Line Booth identified as PB-4; and the Overhead Primerless Top Coat Booth, shall be limited using the following equation:

Interpolation and extrapolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

- (c) 326 IAC 2-4.1-1 (New Source Toxics Control)  
This rule is not applicable to the source because its construction predates the applicability of the rule, and the increase in production which is a modification to the source is not subject to 326 IAC 2-4.1-1.
- (d) 326 IAC 6-2-4 (PM Emission Limit for Sources of Indirect Heating)  
The various natural gas-fired emission units, identified as C.U.1, C.U.2, C.U.3, C.U.4, and C.U.5 are not subject to 326 IAC 6-2-4, because they are not sources of indirect heating.
- (e) 326 IAC 8-3 (Organic Solvent Degreasing Operations)  
The Chromate Line, CL-1; and Zinc Phosphating Line, ZP-1 are not subject to 326 IAC 8-3 because they do not involve cleaning or degreasing of the vehicular components but rather, they are used in chemically coating of the military vehicular components as a surface preparation prior to coating.

## Conclusion

The operation of this military vehicular component production source shall be subject to the conditions of the attached **New Source Review and Minor Source Operating Permit 113-15060-00032**.





**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**  
**Small Industrial Boiler**

Page 1 of 3 TSD App A

**Company Name:** Prince Manufacturing , Inc.  
**Address City IN Zip:** 205 Green Dr., Avilla, IN 46710  
**NSR/MSOP:** 113-15060-00032  
**Reviewer:** Aida De Guzman  
**Date Application Received:** November 15, 2001

1 air make-up, C.U.1 @ 6.5 mmBtu/hr  
1 phosphate line cleaner tank heater @ 2.5 mmBtu/hr  
1 phosphate line phos. tank heater @ 2.5 mmBtu/hr  
1 phosphate line dry/bake oven @ 3.8 mmBtu/hr  
2 heat furnaces each @ 0.08 mmBtu/hr  
2 radiant heaters each @ 0.04 mmBtu/hr

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

15.5

136.1

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	0.1	0.5	0.0	**see below		
				6.8	0.4	5.7

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

### Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations  
VOC and Particulate  
From Surface Coating Operations**

Page 2 of 3 TSD App A

**Company Name:** Prince Manufacturing, Inc.,  
**Address City IN Zip:** 205 Green Dr., Avilla, Indiana 46710  
**NSR/MSOP:** 113-15060-00032

**Reviewer:** Aida De Guzman

**Date Application Received:** November 15, 2001

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/sq ft)	Maximum (sq ft/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
<b>OVERHEAD LINE 1</b>																
Primer	13.2	21.83%	0.0%	21.8%	0.0%	58.00%	0.00090	417.000	2.87	2.87	1.08	25.86	4.72	16.90	4.95	
	7.5	76.96%	0.0%	77.0%	0.0%	20.00%	0.00090	417.000	5.78	5.78	2.17	52.06	9.50	2.84	28.90	
Primer as Applied (4:1)	12.0	27.78%	0.0%	27.8%	0.0%	52.00%	0.00090	417.000	3.34	3.34	1.25	<b>30.08</b>	<b>5.49</b>	<b>4.28</b>	6.42	70%
TopCoat	12.8	29.06%	0.0%	29.1%	0.0%	47.00%	0.00125	1760.000	3.72	3.72	8.18	196.40	35.84	87.50	7.91	
	8.8	25.00%	0.0%	25.0%	0.0%	70.00%	0.00125	1760.000	2.21	2.21	4.86	116.69	21.30	63.89	3.16	
TopCoat as Applied (4:1)	12.0	29.14%	0.0%	29.1%	0.0%	50.20%	0.00125	1760.000	3.50	3.50	7.70	<b>184.78</b>	<b>33.72</b>	<b>24.60</b>	6.97	70%
<b>OVERHEAD LINE 2</b>																
Primerless TopCoat	12.6	27.71%	0.0%	27.7%	0.0%	46.40%	0.00134	818.000	3.50	3.50	3.84	<b>92.07</b>	<b>16.80</b>	<b>13.15</b>	7.54	70%
<b>FLAT LINE BOOTH</b>																
Top Coat	12.6	27.71%	0.0%	27.7%	0.0%	46.40%	0.00134	205.000	3.50	3.50	0.96	<b>23.07</b>	<b>4.21</b>	<b>3.30</b>	7.54	70%

**State Potential Emissions**

**Add worst case coating to all solvents**

**330.00**

**60.22**

**45.33**

**METHODOLOGY**

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \*(8760 hrs/yr) \*(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

**Appendix A: Emission Calculations**  
**HAP Emission Calculations**

Page 3 of 3 TSD Appendix A

**Company Name:** Prince Manufacturing, Inc.  
**Address City IN Zip:** 205 Green Dr., Avilla, IN 46710  
**CP#:** 113-15060

**Pit ID:** 113-00032

**Permit Reviewer:** Aida De Guzman

**Date Application Received:** November 15, 2001

Material	Density (Lb/Gal)	Gallons of Material (gal/hour)	Weight % Hexamethylene Diisocyanate	Weight % Xylene	Weight % Toluene	Weight % MEK	Weight % MIBK	Weight % Ethylbenzene	Hexanemethylene Diisocyanate Emissions (ton/yr)	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	MEK Emissions (ton/yr)	MIBK Emissions (ton/yr)	Ethylbenzene Emissions (ton/yr)
<b>OVERHEAD LINE 1</b>														
Primer (E90H226)	13.15	0.330000	0.00%	0.00%	4.00%	0.00%	0.00%	0.00%	0.00	0.00	0.76	0.00	0.00	0.00
Primer (V93V227)	7.51	0.082500	0.00%	0.00%	21.00%	12.00%	1.00%	0.00%	0.00	0.00	0.57	0.33	0.03	0.00
TopCoat (F93G27)	12.8	1.680000	0.00%	1.00%	0.00%	0.00%	0.00%	0.20%	0.00	0.94	0.00	0.00	0.00	0.19
TopCoat (V93V20)	8.84	0.420000	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.16	0.00	0.00	0.00	0.00	0.00
<b>OVERHEAD LINE 2</b>														
Primerless TopCoat	12.63	1.100000	0.00%	0.00%	2.10%	0.00%	0.00%	0.00%	0.00	0.00	1.28	0.00	0.00	0.00
<b>FLAT LINE BOOTH</b>														
Primerless TopCoat	12.63	0.275000	0.00%	0.00%	2.10%	0.00%	0.00%	0.00%	0.00	0.00	0.32	0.00	0.00	0.00

Total State Potential Emissions

**0.16      0.94      2.93      0.33      0.03      0.19**

**METHODOLOGY**

**subtotal HAPs      4.58**

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs